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(71) Applicant: **Genentech, Inc.**  
**South San Francisco, CA 94080-4990 (US)**

(72) Inventors:  
• **Bodary, Sarah C.**  
**San Bruno, California 94066 (US)**

• **Gorman, Cornelia M.**  
**San Francisco, CA 94117 (US)**  
• **McLean, John W.**  
**Redwood City, California 94065 (US)**  
• **Napier, Mary A.**  
**Hillsborough, CA 94010 (US)**

(74) Representative: **Cripps, Joanna Elizabeth et al**  
**Mewburn Ellis**  
**York House**  
**23 Kingsway**  
**London WC2B 6HP (GB)**

(54) **Method for preparing water soluble polypeptides**

(57) Methods are provided for the preparation in recombinant host cells of biologically active soluble variants of discretely encoded, heteromultimer polypeptide receptors. Such variants are synthesized by the secretion from recombinant transformants of transmem-

brane-modified heteromultimer receptors. Preferred receptors are extracellular matrix, cell surface, or plasma protein-binding receptors such as GPIIb-IIIa.

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# EUROPEAN SEARCH REPORT

Application Number  
EP 01 12 4409

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
Y	<p>DATABASE BIOSIS [Online] BIOSCIENCES INFORMATION SERVICE, PHILADELPHIA, PA, US; 1985 FITZGERALD L A ET AL: "A METHOD FOR PURIFYING THE PLATELET MEMBRANE GLYCOPROTEIN IIB-IIIA COMPLEX" Database accession no. PREV198681049576 XP002191983 * abstract * &amp; ANALYTICAL BIOCHEMISTRY, vol. 151, no. 1, 1985, pages 169-177, ISSN: 0003-2697</p>	1,33	<p>C12N15/12 C12N15/62 C07K14/705 A61K38/17 C12P21/02</p>
Y,D	<p>--- FITZGERALD L A ET AL: "COMPARISON OF CDNA-DERIVED PROTEIN SEQUENCES OF THE HUMAN FIBRONECTIN AND VITRONECTIN RECEPTOR -SUBUNITS AND PLATELET GLYCOPROTEIN IIB" BIOCHEMISTRY, AMERICAN CHEMICAL SOCIETY, EASTON, PA, US, vol. 26, no. 25, 15 December 1987 (1987-12-15), pages 8158-8165, XP000049076 ISSN: 0006-2960 * the whole document *</p>	1,33	<p>TECHNICAL FIELDS SEARCHED (Int.Cl.7)</p>
A,D	<p>--- FITZGERALD L A ET AL: "PROTEIN SEQUENCE OF ENDOTHELIAL GLYCOPROTEIN IIIA DERIVED FROM A CDNA CLONE" JOURNAL OF BIOLOGICAL CHEMISTRY, AMERICAN SOCIETY OF BIOLOGICAL CHEMISTS, BALTIMORE, MD, US, vol. 262, no. 9, 25 March 1987 (1987-03-25), pages 3936-3939, XP000052745 ISSN: 0021-9258 * the whole document *</p> <p>---</p>	1,33	<p>C12N C07K A61K C12P</p>
<p>--- -/--</p>			
<p>The present search report has been drawn up for all claims</p>			
Place of search		Date of completion of the search	Examiner
THE HAGUE		7 March 2002	Smalt, R
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons A : member of the same patent family, corresponding document</p>			

EPD FORM 1503 03 82 (P04031)



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### CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

### LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- ☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

1-4, 33-36



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## EUROPEAN SEARCH REPORT

Application Number  
EP 01 12 4409

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A	COSGROVE L J ET AL: "A GENOMIC CLONE ENCODING THE CHAIN OF THE OKM1, LFA-1, AND PLATELET GLYCOPROTEIN IIB-IIIA MOLECULES" PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF USA, NATIONAL ACADEMY OF SCIENCE. WASHINGTON, US, vol. 83, no. 3, 1 February 1986 (1986-02-01), pages 752-756, XP000049061 ISSN: 0027-8424 * the whole document *		
T	BODARY S C ET AL: "EXPRESSION OF RECOMBINANT PLATELET GLYCOPROTEIN IIBIIIA RESULTS IN A FUNCTIONAL FIBRINOGEN-BINDING COMPLEX" JOURNAL OF BIOLOGICAL CHEMISTRY, vol. 264, no. 32, 1989, pages 18859-18862, XP002191982 ISSN: 0021-9258 * the whole document *		
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
<p><del>The present search report has been drawn up for all claims</del></p>			
Place of search <b>THE HAGUE</b>		Date of completion of the search <b>7 March 2002</b>	Examiner <b>Smalt, R</b>
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons &amp; : member of the same patent family, corresponding document</p>			

EPO FORM 1503 03.92 (P04001)



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**LACK OF UNITY OF INVENTION  
SHEET B**

Application Number

EP 01 12 4409

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

**1. Claims: 1-4,33-36**

Method for preparing membrane-bound GPIIb-IIIa.

**2. Claims: 5-32,37-46**

Secreted multiple subunit polypeptides (MSP), complexes thereof, methods for expressing them, nucleic acids encoding them, and method for preparing them.